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**vol. 23**

November 2, 1979

# PAARA

## Graphs



**palo alto  
AMATEUR  
RADIO ASSN.**

MENLO PARK C.D. RADIO CLUB, K6YQT

# HOBBI-TRONICS

1378 S. BASCOM AVE

SAN JOSE, CALIF

408 998-1103

K6DTX  
23 YEARS

10-6 MON-FRI  
10-5 SAT

NEW

NAME

## AWE AND AZDEN. INTRODUCE THE BRILLIANT NEW PCS-2000 MICROCOMPUTER CONTROLLED

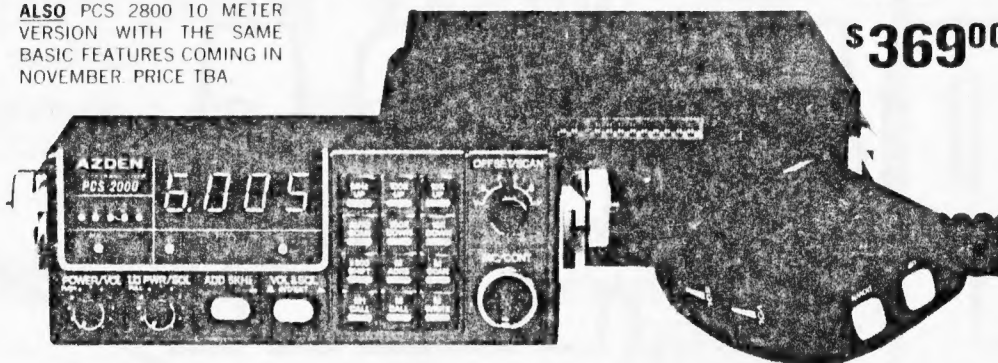
NEW!

2 METER FM TRANSCEIVER

NOT \$550.00  
INTRODUCTORY  
PRICE

\$369<sup>00</sup>

ALSO PCS 2800 10 METER  
VERSION WITH THE SAME  
BASIC FEATURES COMING IN  
NOVEMBER. PRICE TBA



### COMPARE THESE FEATURES WITH ANY UNIT AT ANY PRICE

- **FREQUENCY RANGE:** Receive and transmit 144.00 to 147.995 MHz, 5Khz steps + MARS CAP\* and MULTIPLE OFFSET BUILT IN
- **ALL SOLID STATE-CMOS PL DIGITAL SYNTHESIZED.**
- **SIZE: UNBELIEVABLE! ONLY 6 1/2" x 2 1/2" x 9 1/2" COMPARE!**
- **MICROCOMPUTER CONTROLLED:** All scanning and frequency control functions are performed by microcomputer
- **DETACHABLE HEAD:** The control head may be separated from the radio for use in limited spaces and for security purposes.
- **SIX-CHANNEL MEMORY:** Each memory is re-programmable. Memory is retained even when the unit is turned off
- **MEMORY SCAN:** The six channels may be scanned in either the "busy" or "vacant" modes for quick, easy location of an occupied or unoccupied frequency
- **FULL BAND SCAN:** All channels may be scanned in either "busy" or "vacant" mode. This is especially useful for locating repeater frequencies in an unfamiliar area
- **INSTANT MEMORY 1 RECALL:** By pressing a button on the microphone or front panel, memory channel 1 may be recalled for immediate use
- **MIC-CONTROLLED VOLUME AND SQUELCH:** Volume and squelch can be adjusted from the microphone for convenience in mobile operation
- **ACCESSORY OFFSET:** Provides three additional offset values: +0.4 MHz, +1 MHz and +1.6 MHz. Other offsets may also be obtained
- **25 WATTS OUTPUT:** Also 5 watts low power for short distance communication
- **DIGITAL S/RF METER:** LEDs indicate signal strength and power output. No more mechanical meter movements to fall apart!
- **LARGE 1/2-INCH LED DISPLAY:** Easy to read frequency display minimizes "eyes off the road" time
- **PUSHBUTTON FREQUENCY CONTROL FROM MIC OR FRONT PANEL:** Any frequency may be selected by pressing a microphone or front panel switch
- **SUPERIOR RECEIVER SENSITIVITY:** 0.28 uV for 20 dB quieting. The squelch sensitivity is superb, requiring less than 0.1 uV to open. The receiver audio circuits are designed and built to exacting specifications, resulting in unsurpassed received signal intelligibility
- **TRUE FM, NOT PHASE MODULATION:** Transmitted audio quality is optimized by the same high standard of design and construction as is found in the receiver. The microphone amplifier and compression circuits offer intelligibility second to none
- **OTHER FEATURES:** Dynamic Microphone, built in speaker, mobile mounting bracket, external remote speaker jack (head and radio) and much, much more. All cords, plugs, fuses, microphone hanger, etc. included. Weight 6 lbs.
- **ACCESSORIES:** 15' REMOTE CABLE \$29.95 \*MARS CAPKIT TBA PCS-6R A/C POWER SUPPLY \$49.95 TOUCHTONE MIC KIT \$39.95

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OF

SHAVER RADIO



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## PAARAgaphs is the official organ of

The Palo Alto Amateur Radio Association and the Menlo Park Civil Defense Radio Club

\*\*\*\*\*

## 1979 CLUB OFFICERS

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\*\*\*\*\*

## PAARA POLICIES

## PAARAgaphs STAFF

Membership in PAARA is \$4.00 per calander year (payable in January) which membership includes a subscription to PAARAgaphs. Interested others may subscribe to PAARAgaphs for \$6.00. Make payment to:

PAARA, P.O. Box 911, Menlo Park, CA 94025

Written contributions to P.O. Box above or 1043 Del Norte Ave., Menlo Park, CA 94025

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\*\*\*\*\*

## R E G U L A R M E E T I N G

FRIDAY

NOVEMBER 2, 1979

7:30 p.m.

Rooms 15-17, Menlo Park Recreation Center, Civic Center

Alma at Mielke, Menlo Park

## AMATEUR RADIO IN THE FAR EAST

by

Hans Schellenberg, WB6KFO

Hans has spoken to the Club on several past occasions and has kept members entertained with his escapades through Europe. Now, a new world to tell us about.

CIRCLE THE DATE

FRIDAY

NOVEMBER 2, 1979

7:30 pm.

FUTURE MEETINGS: Election Night, December 7, Christmas Dinnerparty December 17, January 4, 1980—beyond that a new calander is needed.

PAST CORNER: The October meeting started sharply at 7:30 p.m. in the Menlo Park Recreation Center.

Final planning and work assignments were made for the Auction and Flea Market by Bob, K6SEM, Fred, K6YT, Gerry, W6NIR, Jim, WA7UDG, Gerry, WA6LNV and Dave, WB6JFH, and all members were invited to help in the one fund raising session of the year.

Raffle ticket sales, coffee, cookies and eyeball QSO's separated the business part of the meeting from the speakers'.

Mike, K6MYC, of KLM, described the engineering effort and results of a spectacular 10-15-20 meter tribander soon to be offered on the market.

Built to fit on a city lot, it has 8.5 to 10dbd gain, 25db front to back and 40db side reduction with five elements on 20 and six on 15 and 10. And these figures on a 35 to 40 foot tower.

A comment was heard that the best amplifier is a good antenna. Take your 180 watt PEP HW-101 or TS-520 and make it sound like a KW or more...Energy efficient.

Further information is available from KLM, 17025 Laurel Rd., Morgan Hill, CA 95037, 408-779 7363.

The meeting ended about 9:30 with some Club members going home to paw through the stuff in the garage once more before the Auction and others going down the block and around the corner to continue planning of the Auction.

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BOARD CORNER: The Board of Directors met in the luxury of the Club COMCENT with all Board Members present, plus your Editor, Steve, K6FS and Fred, K6YT.

Leather larynx Bob, K6SEM, the PAARA Auctioneer, recovered his voice and led the group through a series of topics which included:

1. The plusses and minuses of the Auction/Flea Market and how it could be improved next year. Discussion was followed by recommendations for next year. These will be passed on to the committee in charge in 1980.

2. The PAARA Picnic that was held October 21—how much of what to supply. If you didn't go to the picnic you don't know what you missed.

3. Termination of the offer of free name tags to new members because of the large number of readied tags not claimed by their owners.

4. Requested Bob, W6BFH, to come up with an estimate of PAARAgaphs cost. Off the top

of his head it was \$55 per month (later revised upwards slightly).

5. Decided to increase PAARA dues, to meet the cost of PAARAgaphs, to \$6.00 per year beginning in 1980, and to end the \$1.00 "interested party" subscription offer in the November PAARAgaphs.

6. Formed a Nominating Committee of Eric, W6DU, Terry, N6RY, and Fred, K6YT.

7. Developed plans for a Christmas party December 17 at Ricks Swiss Chalet, to be discussed at the November meeting.

The meeting ended about 9:30 except for unrecorded actions and discussion made down the street and around the corner midst beer and skittles.

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PUBLIC RELATIONS CORNER: Forty-five were in attendance at the October 5 meeting (by the sign-up register), not good, not bad. Visitors, by the order of sign-up included Dave Dart, KØRQS, Leawood, KS, James Vanover, Menlo Park, Jeffrey Sue, WA6SLF, Menlo Park, Ray Nelson, Palo Alto, Dave Dorrance, WA6YSO, Menlo Park, Allan KA6CLL, Sunnyvale, and Wally Porter, K6URO, Palo Alto. Visitors not included are sorrowfully missed because they failed to sign the register.

CORRECTION: In the August issue of PAARAgaphs Alan Larson, WA6AZP, had his first name misspelled—hopefully he finds it correct in the November Roster.

NEW MEMBERS: Not listed previously, include:

Alan S. Jenson, W6UVP 2312 Santa Anna Palo Alto, CA 94303 856-6274	Chris Schellenberg WB6WVK 311 Oakwood Place Menlo Park, CA 94025 324-4591
Wally Porter, K6URO 3328 Kenneth Drive Palo Alto, CA 494-7038	Jeffrey Sue, WA6SLF 1016 Middle Ave., #1 Menlo Park, CA 94025 321-7750
David Dorrance, WA6YSO 750 Coleman Ave., #8 Menlo Park, CA 94025 321-6068	George Nixon, GI3OEN 168 Kellogg Ave. Palo Alto, CA 94301 326-9348

Alan, W6UVP, was a member of PAARA around 1953-1955 which makes him an old timer, interested in traffic, contest and field day activity.

Wally, K6URO, normally works 40 meters phone and CW, and, from his call letters has been licensed since the mid '50's.

Chris, WB6WVK, is busy on 2-meters and is often heard on 15 and 40 CW. Chris has a

fine station of his own—and what he doesn't have he can usually find in his Dad's corner of the shack, Hans, WB6KFO.

Jeffrey, WA6SLF, has been licensed since 1960 and normally works 220Mhz. He spends a mixture of day and night hours as a M.D. at the Stanford Medical Center. One of his stronger interests is in RACES.

Dave, WA6YSO, has been licensed since 1977, holds an Advanced Class license, works a TS-520 with a SB-230 sometimes outboard on 40, 15 and 10 meters—mostly phone, with interests in Field Day Contesting.

George, GI3OEN, either wasn't home when your editor was near a phone or when your editor was near a phone it was either too early or too late to call him for information. Will include it next month. In the meantime find out from George firsthand at the next meeting—November 2.

It is harder for new members to remember 122 names, faces and call letters than it is for 122 old member to become acquainted with six new members. But it's a two way street and there is much more to a Radio Club than radio.

\* \* \*

#### S I L E N T   K E Y

Glen Baker, W6UOK

PAARA 1958-July 28, 1979.

\* \* \*

UPGRADE CORNER: Kurt Kanthack, WB6BGV, has upgraded to General Class. Congratulations, Kurt. He suggests all Novices and Technicians should give it a whirl any Wednesday they are in the City, and that it might even be worth a special trip.

" " "

TRAINING CORNER: Kelly Tuttle, WB6AAJ, successful in training programs, plans a class to start in January, 1980. He is asking for instructors to help plus demonstrators. Classes are to be held in his home at 886 Highlands Circle, Los Altos. For further information, call Kelly at 961-2259. Kelly has great success.

Training sessions are also available in the Explorer Post 599. Those of Explorer Scout age with an interest in radio are urged to call Jim, WA7UDG, at 325-8309. It is a fun group with weekly meetings.

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TWO LINE CORNER: Too much for one line and what can be done with two lines? So it turns out to be three!

AUCTION/FLEA MARKET CORNER: The 1979 Auction and Flea Market was a great success. Four hundred thirty six registered and an estimated total attendance upwards to 700 was made by our expert crowd guessers. There was something for everyone—30 Flea Market tables loaded with almost everything in the catalog, 53 Auction Blocks of 158 items went for \$1.00 to \$230. More than half of the auction items were taken away for \$10 or less. There was much quality equipment and apparent satisfaction for sellers and buyers alike.

The Explorers did a yoeman's job with coaster wagons, skate boards and hand trucks emptying cars and trucks and loading tables with items—large and small.

Thirty dozen doughnuts and 8 pounds of coffee were appreciated, most of it by noon, by the hungry and thirsty crowd.

Early workers arrived at the AMPEX Cafeteria at 7:00 a.m., got things set up by about 8. Flea Market tables were all sold by 9:30 and the Auction started with a raffle prize at 10:01.

Raffle prizes were intersperced through the Auction. Altogether 14 items were exchanged for tickets with donors listed from A to Z: All Tronics, Halted Specialties, Ham Radio Outlet, HDB Sales, Heath-Kit (3), Hobbie-Tronics, J&H Outlet, PAARA, Qument, Radio Shack (Hamilton Av., P.A.) U-Do Electronics and Zack Electronics.

Store value of prizes came to \$339.85 and each item was well received by the winner—sometimes on the second and third drawing.

The Auction ended about 2 p.m. and the clean-up crew—many those who started the day—was finished by about 4. An exhausting day but worth the effort socially as well as financially.

From a personal standpoint the biggest gain was who did the work. Reaching a goal together brings a bond that each involved will remember.

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EYEBALL CORNER: Tests done by a R. L. Carpenter on the eyes of rabbits showed that lens opacities (cataracts) could be induced after exposure to 180 milliwatts of microwave radiation per square centimeter. The Bureau of Radiological Health (Federal Agency) in their own tests, found that levels of 10 - 12 mW/cm<sup>2</sup> did not cause cataract formation—and no one knows: a) what level does cause cataracts in rabbits and b) what relationship exists between rabbits and humans! de Dave, KA6GZG



NOMINATIONS CORNER: Eric, W6DU, Fred, K6YT and Terry, N6RY were chosen by the Board to be the Nominating Committee. They will present their slate of candidates at the November meeting for President, Vice-President, Secretary, Treasurer and three Board members whose terms expire at the end of the year. Those Board Members include: Dusty, K6MFN, Gerry, W6NIR and Erv, W6YFM.

If you have a desire to help control the destiny of PAARA, call Eric at 948 1748, Fred, at 948 9238 or Terry at 592 8750. Nominations from the floor will be accepted; election will be at the December 7 meeting, the change of command will be at the December 17 Christmas Party.

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CHRISTMAS PARTY CORNER: Rick's Swiss Chalet will be the site of the December 17 Christmas dinner and party. Last year over 40 attended and all enjoyed themselves. Cocktails at 6 p.m. and Dinner at 7.

The menu includes either roast cross rib of beef au jus or coq au vin, either long grain rice or potatoes, fresh vegetables, french rolls and butter, ice cream or fresh fruit sherbert, and coffee. If twenty of each dinners are selected, the price for all will be \$7.75 each.

It is early to make plans, but for that reason the scheduling of Christmas parties can be built around PAARA. Gerry, WA6LNV, will have the full story at the November 2 meeting.

...

COMMUNICATION CORNER: Steve, K6FS, announced that the Veteran's Hospital will hold a "Vetathon"—a walk or run—Sunday, November 11, starting at 10 a.m. and lasting 'til about noon.

The course will follow Bay Road, Marsh Road and Constitution Drive and back for a distance of about six miles.

There will be a need for a half dozen or so 2-meter mobile stations at check points and cruising, similar to the March of Dimes marches.

Steve will give more details at the meeting. If you wish to sign up early, call him at 322-4952.

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RESTORATION CORNER: The WWII Liberty Ship "SS Jeremiah O'Brien" will be restored and berthed in the S. F. Golden Gate Recreation Area. The ship's radio room will be restored as a ham station. Visiting amateurs will be allowed to operate the station.

The "Queen Mary", berthed at Long Beach, has a station, W6RO.

QSO PARTY CORNER: The weekend of October 8-9 was the VHF QSO Party which stirred considerable activity on SSB down around 144.2 MHz, and on 220, 450 and 1296MHz also. Stations were able to work (on 2-meters which was my limit) ARRL Sections: SCV, SF, EB, Sacto, S. J. V, S. Barbara, LA, Orange, and San Diego plus Nevada and Oregon.

A special thrill for K6MFN was almost making a two way via a "Big Blue Whizzer" with Seattle. WA6GYD made it while I only got 1/2 report during the two minute path opening. Of course, being on a mountain top gave higher scores, but lots of fun trying.

de Dusty, K6MFN

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UNCLASSIFIED CORNER: PAARAgaphs makes this space available to members, and to others as space permits, because what someone has, he doesn't want, and what someone hasn't, he wants.

FOR SALE: TR22C portable 1.5 watt 2-meter transceiver with self-contained NICAD batteries and charger. 12 channels; 9 repeater and 3 simplex, for \$160. Contact Terry, N6RY, 592-8750 or 595-3000 x2475.

FOR SALE: HQ-140 with speaker, for \$100 or best offer. See Jerry, KA6FTW at the meeting or call 735 7994.

FOR SALE: HT-44 Transmitter, SX-170 Receiver, HA-10 Low Frequency Converter, HA-10 Power Supply, antenna relay, 100kc calibrator, microphone, \$250. Call 325-3347 for Dave, KA6GZG, or see him at the meeting.

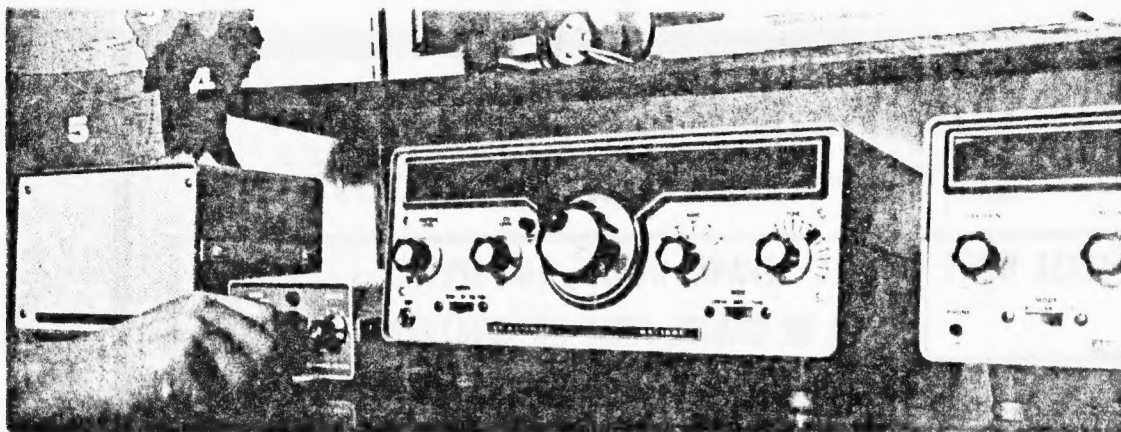
WANTED: Listeners for PAARA Swapshop, 145.45MHz, Monday at 2030 Local Time.

WANTED: By the Club. A trailer suitable for hauling 23 foot mast sections. It seems PAARA picked up a 65 foot crank-up tower in need of repairs that have become a challenge to Fred, K6YT. Up, Up and Away! Trailer should be at least 14 feet from hitch to axel and have near normal vehicle tread. If you have a lead on one call Fred, K6YT, at 948-9238 or Bob, K6SEM at 494-6549, or see them at the meeting.

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EDITOR'S CORNER: Typed without the justification of the October issue whilst reading "Chesapeake". Both were finished about the same time.





## HR-1680 Receiver & HX-1681 Transmitter...the unbeatable pair

### New! Heathkit HX-1681 (QSK) Transmitter

**\$249<sup>95</sup>**

- Full break-in CW operation (QSK)
- Built-in VFO to change frequencies
- Covers 80 through 10 meters CW
- Rugged 6146 finals give you punch



Whether you're a novice or CW buff of long standing, the new Heathkit QSK transmitter is a top notch rig that will give you CW performance you can count on. A perfect match for the HR-1680 receiver, the HX-1681 mixes solid-state technology and vacuum tube finals to give you a transmitter loaded with the features that Heath engineering is famous for.

You'll get full break-in operation and built-in solid-state TR switching. There's a sidetone output with adjustable tone arm level and receiver muting. We've even provided keying for easy addition of an external power amplifier.

Operation is easy too. A clean front panel layout puts everything at your fingertips. Sidetone and CW level controls, PA metering, and spot mode, bandswitching, and tuning — they're all right where you need them for quick, efficient operation.

Plenty of power out. A pair of rugged 6146As gives the HX-1681 all the power you need — 100 watts minimum on 80 through 15 meters, and 75 out up on 10. With the HX-1681 in your shack, you'll cut through the QRM for QSO after enjoyable QSO. Requires Heathkit Model PS-23 power supply featured on page 20.

Kit HX-1681, Shpg. wt. 16 lbs. **249.95**  
Kit PS-23, Shpg. wt. 19 lbs. **64.95**

**HX-1681 SPECIFICATIONS:** Frequency Coverage (MHz): 3.5-4.0, 7.0-7.5, 14.0-14.5, 21.0-21.5, 28.0-28.5. RF Power Output: 100 watts min. 80-15 meters, 75 watts min. on 10 meters. Mode of Operation: CW. Harmonic Radiation: 50 dB down at rated output. Spurious Radiation: 60 dB down at rated output. Power Requirements: 700-850 VDC @ 250 mA with max. 1% ripple, 250 VDC @ 50 mA with max. 0.05% ripple, —115 VDC @ 10 mA with 0.5% max. ripple, 12.6 VAC/DC @ 2.5 A. Dimensions: 12.75" W x 6.75" H x 12" D. Weight: 12 1/4 lbs.

### HR-1680 — The First Choice for Your First Receiver

**\$219<sup>95</sup>**

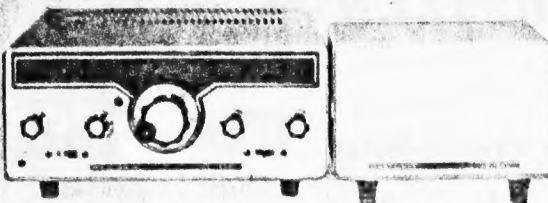
- Dual conversion front end works 80 through 10
- Preselector filters out unwanted signals
- 4-Pole crystal filtering for sharp performance
- Active audio filtering delivers clearer CW
- No instrument alignment means easy maintenance

Low cost and high performance make the Heathkit HR-1680 the right choice for your first receiver. Just look at the features.

A hot dual-conversion front end and 0.5  $\mu$ V sensitivity works them all — 80 through 10 meters. And selectivity? With a matched 4-pole crystal filter in the IF, you can count on your 1680 to be razor sharp.

Sideband reproduction is flawless, and the CW buff will appreciate the versatility of selectable wide and narrow active audio filtering.

With features like a tunable preselector to filter out unwanted signals, rugged solid-state circuitry for added reliability and a built-in 100 kHz calibrator for easier maintenance, you can count on Heath's HR-1680 for unparalleled performance, always.



Match the 1680 with the exciting new HX-1681 and you'll have an unbeatable pair. Can be aligned without instruments. Operates from 12 VDC or AC supply.

Kit HR-1680, Shpg. wt. 14 lbs. **219.95**  
Kit HS-1681, Matching Speaker, 5 lbs. **29.95**

**HR-1680 SPECIFICATIONS:** Frequency Coverage (MHz): 3.5-4.0, 7.0-7.5, 14.0-14.5, 21.0-21.5, 28.0-28.5, 28.5-29.0. Sensitivity: Less than 0.5  $\mu$ V for 10 dB S+N/N for SSB operation. IF Selectivity: 2.1 kHz minimum at 6 dB down, 7 kHz maximum at 60 dB down. Dial Accuracy: Within 2 kHz after calibration at nearest 100 kHz marker. Power Requirement: 120 or 240 volts AC (60/50 Hz) 27 watts maximum or 11.5 VDC to 15 VDC at 0.75 amperes maximum. Dimensions: 6 1/4" H x 12 3/4" W x 12" D. Net Weight: 9 3/4 lbs.

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